



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	LUBBOCK, TX	<b>Accident Number:</b>	FTW95FA094
<b>Date &amp; Time:</b>	01/18/1995, 0903 CST	<b>Registration:</b>	N9461R
<b>Aircraft:</b>	CESSNA 208B	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled		

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## Analysis

DURING THE NIGHT BEFORE THE ACCIDENT, FREEZING RAIN FOLLOWED LATER BY SNOW, FELL ON THE RAMP WHERE THE AIRPLANE WAS PARKED. A WITNESS REPORTED THAT WHILE ASSISTING THE PILOT IN REMOVING SNOW FROM THE AIRPLANE, HE NOTED THAT 80% OF THE WING WAS COVERED WITH A COARSE LAYER OF ICE, FROM 1/16 TO 3/16 IN THICKNESS, THAT WAS NOT REMOVED BEFORE FLIGHT. AFTER THE ACCIDENT, A FIREMAN FROM THE CITY OF LUBBOCK FIRE DEPARTMENT NOTED ICE ON THE WING APPROXIMATELY 1/16TH OF AN INCH THICK THAT HAD A ROUGH TEXTURE THAT LOOKED AS IF DEPOSITED BY FREEZING RAIN. THE PILOT REPORTED THAT SHORTLY AFTER TAKE OFF SHE HEARD A POWER DECREASE AND FELT SURGES IN THE AIRCRAFT. THE PILOT THEN LOOKED FOR A PLACE TO LAND. A DETAILED EXAMINATION OF THE ENGINE REVELED NO MECHANICAL DEFICIENCIES.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S FAILURE TO REMOVE ICE FROM THE AIRFRAME PRIOR TO TAKEOFF. FACTORS WERE FREEZING RAIN THE NIGHT BEFORE AND THE PILOTS' INCOMPLETE PREFLIGHT INSPECTION.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (F) WEATHER CONDITION - FREEZING RAIN
2. (F) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
3. (C) ICE/FROST REMOVAL FROM AIRCRAFT - NOT PERFORMED - PILOT IN COMMAND
4. PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND

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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

### HISTORY OF FLIGHT:

On January 18, 1995, at 0903 central standard time, a Cessna 208B, N9461R, was destroyed during a forced landing near Lubbock, Texas. The airline transport rated pilot received minor injuries. Instrument meteorological conditions prevailed for the instrument cross country 14 CFR Part 135 flight operated by Martinaire, Inc. of Dallas, Texas.

According to several witnesses and the pilot/operator report, the airplane departed from intersection foxtrot, at the Lubbock International Airport, runway 35L, at 0901 on an instrument flight plan to Midland, Texas. The pilot established initial contact with departure control at 350 feet above the ground. The pilot's next transmission was "eight seventeen goin back to the field." At 0903, the emergency locator transmitter was heard by departure control.

The pilot reported that she arrived at the airport at approximately 0630. She reports that she started the engine and "checked all anti-ice, de-ice systems." She cleaned snow off the cowlings, the windshield and "lowered flaps, using small stepladder swept snow from aircraft." The aircraft was loaded and taxied to a nearby FBO. She asked a lineman to assist her by removing remaining snow from the top of the aircraft and then departed. During the instrument departure climbing turn, at 400 feet above the ground, the pilot "heard a decrease of power, felt surge, scanned engine instruments." The aircraft began to lose altitude and the pilot landed in a snow covered field.

### AIRCRAFT INFORMATION

Weight and balance calculations were performed using figures provided by the manufacturer, the operator, and the pilots' Federal Aviation Administration (FAA) records. An estimate of the weight of the airplane at the time of the accident was 8,301 pounds. Intentional flight into known icing conditions in this airplane is limited by the Pilot's Operating Handbook to 8,000 pounds. Examination of the airplane and engine at the accident site did not disclose any mechanical problems.

The engine was removed from the accident airplane and taken to Pratt & Whitney Aircraft Services, Inc. facilities at Addison, Texas for further evaluation. It was determined that there were no indications of any anomalies or distress observed to the engine components that would have precluded normal operation prior to impact.

A review of the airframe and engine records by a FAA inspector did not reveal any anomalies or uncorrected maintenance defects prior to the flight.

### METEOROLOGICAL INFORMATION:

A review of the weather data revealed that just after midnight a light rain started falling on the ramp where the airplane was parked. The temperature was dropping steadily. By 0519 the precipitation had turned to light rain, light snow, and fog. By 0625 the rain stopped, and the light snow and fog continued until after the accident.

A witness stated that he helped the pilot clean the snow off the airplane. Under the snow, he noticed that 80% of the airplane's wing was covered with a coarse layer of ice from 1/16 to 3/16 in thickness that was not removed. The airplane took off less than five minutes later.

A fireman from the City of Lubbock Fire Department, stationed at Lubbock International

Airport, arrived at the accident scene at 0920. He reported "I noticed a considerable amount of snow and ice on the wings of the aircraft. Some of the snow was obviously thrown up on the wing as it skidded over the snow covered ground as it had mud in it. Some of the ice on the wing was a coating approximately 1/16th of an inch thick that had a rough texture that looked as if deposited by freezing rain. It was much rougher than a really rough orange skin."

#### WRECKAGE AND IMPACT INFORMATION:

The airplane came to rest one mile from Lubbock International Airport on a magnetic heading of 020 degrees in a flat field of winter wheat. The 438 feet long ground scar had a measured heading of 095 degrees. The first propeller blade was located 168 feet north of the main ground scar. The second and third propeller blades were located 107 feet and 26 feet north of the main ground scar consecutively.

Flight control continuity was confirmed. The engine was broken from its mounts and forced under the airplane on the pilot's side. The fuel cells were not compromised. The belly pod was crushed on first impact and its contents distributed along the path of the main ground scar.

#### ADDITIONAL DATA:

The wreckage was released to the owner's representative upon completion of the investigation.

#### Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial	<b>Age:</b>	38, Female
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	11/23/1994
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>		
<b>Flight Time:</b>	2542 hours (Total, all aircraft), 514 hours (Total, this make and model), 2307 hours (Pilot In Command, all aircraft), 114 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N9461R
Model/Series:	208B 208B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	20880076
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	12/05/1994, AAIP	Certified Max Gross Wt.:	8750 lbs
Time Since Last Inspection:	76 Hours	Engines:	1 Turbo Prop
Airframe Total Time:	3984 Hours	Engine Manufacturer:	P&W
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	PT6A-114
Registered Owner:	CESSNA FINANCE CORP	Rated Power:	600 hp
Operator:	MARTINAIRE, INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	MXIA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	LBB, 3256 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	0915 CST	Direction from Accident Site:	270°
Lowest Cloud Condition:	Scattered / 300 ft agl	Visibility	1.5 Miles
Lowest Ceiling:	Overcast / 2200 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	340°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	0°C / 0°C
Precipitation and Obscuration:			
Departure Point:	, TX (LBB)	Type of Flight Plan Filed:	IFR
Destination:	MIDLAND, TX (MAF)	Type of Clearance:	IFR
Departure Time:	0901 CST	Type of Airspace:	Class D

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	JAMES F STRUHSAKER	Report Date:	09/24/1995
Additional Participating Persons:	JOHN E BOATRIGHT; LUBBOCK, TX		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).